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L1 STRUCTURE UPLOADED

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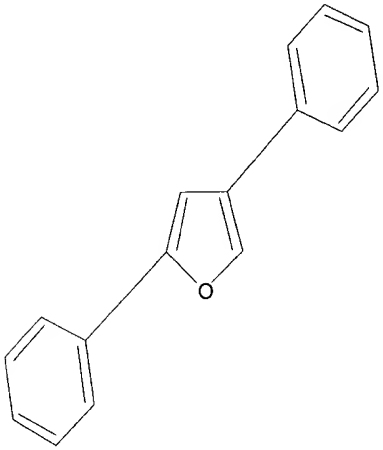
L1 HAS NO ANSWERS
L1 STR



Formula (IV)

Structure attributes must be viewed using STN Express query preparation.

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FULL SCREEN SEARCH COMPLETED - 18045 TO ITERATE

100.0% PROCESSED 18045 ITERATIONS 609 ANSWERS
SEARCH TIME: 00.00.01

L2 609 SEA SSS FUL L1

=> file caplus, uspatfull

FILE 'CAPLUS' ENTERED AT 18:08:54 ON 11 OCT 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE 'USPATFULL' ENTERED AT 18:08:54 ON 11 OCT 2002

=> s l2 and (avian? or bird? or chick?) and infectious(p)bursal?(p)disease(p)vir? and (IBDV or IBD)
L3 1 L2 AND (AVIAN? OR BIRD? OR CHICK?) AND INFECTIOUS(P) BURSAL?(P) DISEASE(P) VIR? AND (IBDV OR IBD)

=> d l3 abs ibib kwic 1

L3 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB A method is provided for treating **infectious bursal disease** (**IBD**) in an **avian** subject in need of such treatment. The method comprises administering to the subject a compd. of formulas I-IV [p = 1-8; A = O, S, NR (R = H, lower alkyl); X1, X2 = H, lower alkyl, lower alkoxy; R1, R2, X', X'', X3-X6 = lower alkyl, lower alkoxy, aryl, halo, etc.], or a pharmaceutically acceptable salt thereof, in an amt. sufficient to treat **IBD**. In another aspect, the invention provides a method of producing active immunity against **infectious bursal virus disease** (**IBD**) in an **avian** subject. The method comprises administering to a subject an immunogenic-amt. of an **IBDV** vaccine and a compd. selected from compds. I-IV. A compd. represented by I-IV is administered in an amt. sufficient to induce an immune response in the **avian** subject.

ACCESSION NUMBER: 2001:338336 CAPLUS
DOCUMENT NUMBER: 134:348244
TITLE: Methods and formulations using heterocyclic compounds for the treatment of infectious bursal disease in **avian** subjects
INVENTOR(S): Dykstra, Christine C.; Hudson, James C.; Tidwell, Richard R.; Boykin, David; Ewald, Sandra
PATENT ASSIGNEE(S): The University of North Carolina at Chapel Hill, USA; Auburn University; Georgia State University Research Foundation, Inc.
SOURCE: PCT Int. Appl., 58 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001032159	A2	20010510	WO 2000-US30066	20001101

WO 2001032159 A3 20020711
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
PRIORITY APPLN. INFO.: US 1999-162877P P 19991101
OTHER SOURCE(S): MARPAT 134:348244

TI Methods and formulations using heterocyclic compounds for the treatment of infectious bursal disease in **avian** subjects

AB A method is provided for treating **infectious bursal disease** (**IBD**) in an **avian** subject in need of such treatment. The method comprises administering to the subject a compd. of formulas I-IV [p = 1-8; A = O, S, NR (R = H, lower alkyl); X1, X2 = H, lower alkyl, lower alkoxy; R1, R2, X', X'', X3-X6 = lower alkyl, lower alkoxy, aryl, halo, etc.], or a pharmaceutically acceptable salt thereof, in an amt. sufficient to treat **IBD**. In another aspect, the invention provides a method of producing active immunity against **infectious bursal virus disease** (**IBD**) in an **avian** subject. The method comprises administering to a subject an immunogenic-amt. of an **IBDV** vaccine and a compd. selected from compds. I-IV. A compd. represented by I-IV is administered in an amt. sufficient to induce an immune response in the **avian** subject.

ST heterocyclic deriv prepn **avian infectious bursal disease**; immunogen **avian infectious bursal virus disease** vaccine

IT Antiviral agents
B cell (lymphocyte)
Bird (Aves)
Chicken (Gallus domesticus)
Drug delivery systems
Infectious bursal disease virus
Vaccines
(heterocyclic compds. for treatment of **infectious bursal disease** in **avians**)

IT 200878-40-6, 9H-Carbazole-2,7-dicarboximidamide
RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(DAP 092; heterocyclic compds. for treatment of infectious bursal disease in **avians**)

IT 74733-75-8, BABIM 160522-92-9, DB 203 160522-95-2, DB 197
242807-45-0, DB 453 338945-24-7, SW 066
RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(heterocyclic compds. for treatment of infectious bursal disease in **avians**)

IT **229308-77-4P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(heterocyclic compds. for treatment of infectious bursal disease in **avians**)

IT 339049-82-0, DB 528
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(heterocyclic compds. for treatment of infectious bursal disease in **avians**)

IT 107-15-3, 1,2-Diaminoethane, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction; heterocyclic compds. for treatment of infectious bursal disease in **avians**)

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Uploading 8042.str

L6 STRUCTURE UPLOADED

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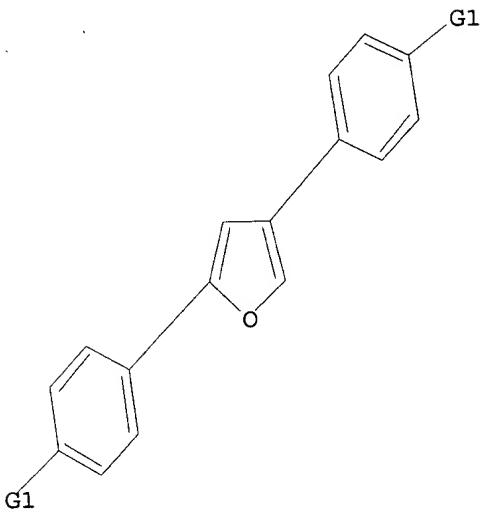
L6 HAS NO ANSWERS
L6 STR



G1 Cy,Hy,Ak

Structure attributes must be viewed using STN Express query preparation.

=> s l6 sss full
FULL SEARCH INITIATED 18:22:30 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 3391 TO ITERATE

100.0% PROCESSED 3391 ITERATIONS 54 ANSWERS
SEARCH TIME: 00.00.01

L7 54 SEA SSS FUL L6

(FILE 'HOME' ENTERED AT 18:06:34 ON 11 OCT 2002)

FILE 'REGISTRY' ENTERED AT 18:07:01 ON 11 OCT 2002
L1 STRUCTURE UPLOADED
L2 609 S L1 SSS FULL

FILE 'CAPLUS, USPATFULL' ENTERED AT 18:08:54 ON 11 OCT 2002
L3 1 S L2 AND (AVIAN? OR BIRD? OR CHICK?) AND INFECTIOUS(P)BURSAL?(P
L4 296 S L2
L5 295 DUP REM L4 (1 DUPLICATE REMOVED)

FILE 'STNGUIDE' ENTERED AT 18:16:48 ON 11 OCT 2002

FILE 'REGISTRY' ENTERED AT 18:22:01 ON 11 OCT 2002
L6 STRUCTURE UPLOADED
L7 54 S L6 SSS FULL

FILE 'CAPLUS, USPATFULL' ENTERED AT 18:22:52 ON 11 OCT 2002

=> s l7 and (avian? or bird? or chick?) and infectious(p)bursal?(p)disease(p)vir?
and (IBDV or IBD)
L8 1 L7 AND (AVIAN? OR BIRD? OR CHICK?) AND INFECTIOUS(P) BURSAL?(P)
DISEASE(P) VIR? AND (IBDV OR IBD)

=> d l8 abs ibib kwic 1

L8 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB A method is provided for treating **infectious bursal disease** (**IBD**) in an **avian** subject in need of such treatment. The method comprises administering to the subject a compd. of formulas I-IV [p = 1-8; A = O, S, NR (R = H, lower alkyl); X1, X2 = H, lower alkyl, lower alkoxy; R1, R2, X', X'', X3-X6 = lower alkyl, lower alkoxy, aryl, halo, etc.], or a pharmaceutically acceptable salt thereof, in an amt. sufficient to treat **IBD**. In another aspect, the invention provides a method of producing active immunity against **infectious bursal virus disease** (**IBD**) in an **avian** subject. The method comprises administering to a subject an immunogenic-amt. of an **IBDV** vaccine and a compd. selected from compds. I-IV. A compd. represented by I-IV is administered in an amt. sufficient to induce an immune response in the **avian** subject.

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DOCUMENT NUMBER: 134:348244
TITLE: Methods and formulations using heterocyclic compounds for the treatment of infectious bursal disease in **avian** subjects
INVENTOR(S): Dykstra, Christine C.; Hudson, James C.; Tidwell, Richard R.; Boykin, David; Ewald, Sandra
PATENT ASSIGNEE(S): The University of North Carolina at Chapel Hill, USA; Auburn University; Georgia State University Research

SOURCE: Foundation, Inc.
PCT Int. Appl., 58 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001032159	A2	20010510	WO 2000-US30066	20001101
WO 2001032159	A3	20020711		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 1999-162877P P 19991101
OTHER SOURCE(S): MARPAT 134:348244

TI Methods and formulations using heterocyclic compounds for the treatment of infectious bursal disease in **avian** subjects

AB A method is provided for treating **infectious bursal disease** (**IBD**) in an **avian** subject in need of such treatment. The method comprises administering to the subject a compd. of formulas I-IV [p = 1-8; A = O, S, NR (R = H, lower alkyl); X1, X2 = H, lower alkyl, lower alkoxy; R1, R2, X', X'', X3-X6 = lower alkyl, lower alkoxy, aryl, halo, etc.], or a pharmaceutically acceptable salt thereof, in an amt. sufficient to treat **IBD**. In another aspect, the invention provides a method of producing active immunity against **infectious bursal virus disease** (**IBD**) in an **avian** subject. The method comprises administering to a subject an immunogenic-amt. of an **IBDV** vaccine and a compd. selected from compds. I-IV. A compd. represented by I-IV is administered in an amt. sufficient to induce an immune response in the **avian** subject.

ST heterocyclic deriv prepn **avian infectious bursal disease**; immunogen **avian infectious bursal virus disease** vaccine

IT Antiviral agents
B cell (lymphocyte)
Bird (Aves)
Chicken (Gallus domesticus)
Drug delivery systems
Infectious bursal disease virus
Vaccines
(heterocyclic compds. for treatment of **infectious bursal disease** in **avians**)

IT 200878-40-6, 9H-Carbazole-2,7-dicarboximidamide
RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(DAP 092; heterocyclic compds. for treatment of infectious bursal disease in **avians**)

IT 74733-75-8, BABIM 160522-92-9, DB 203 160522-95-2, DB 197
242807-45-0, DB 453 338945-24-7, SW 066
RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(heterocyclic compds. for treatment of infectious bursal disease in **avians**)

IT **229308-77-4P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(heterocyclic compds. for treatment of infectious bursal disease in **avians**)

IT 339049-82-0, DB 528
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(heterocyclic compds. for treatment of infectious bursal disease in **avians**)

IT 107-15-3, 1,2-Diaminoethane, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction; heterocyclic compds. for treatment of infectious bursal disease in **avians**)

=>

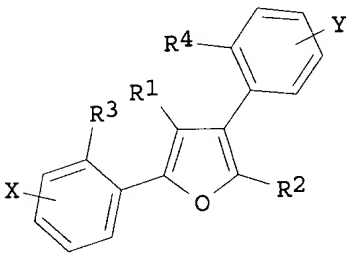
FILE 'CAPLUS, USPATFULL' ENTERED AT 18:22:52 ON 11 OCT 2002
L8 1 S L7 AND (AVIAN? OR BIRD? OR CHICK?) AND INFECTIOUS(P)BURSAL?(

=> s l7
L9 20 L7

=> s l9 and py<=1999
L10 14 L9 AND PY<=1999

=> d l10 abs ibib hitstr 1-14

L10 ANSWER 1 OF 14 CAPLUS COPYRIGHT 2002 ACS
GI



I

AB Title compds. [I; R1, R2 = H, alkyl, aryl, alkylaryl, aminoalkyl, aminoaryl, halo, oxyalkyl, oxyaryl, oxyarylalkyl; R3, R4 = H, alkyl, oxyalkyl, alkylaryl, aryl, oxyaryl, aminoalkyl, aminoaryl, halo; X, Y are para or meta and = H, alkyl, oxyalkyl, C(:NR5)NR5R6; R5 = H, alkyl, alkoxyalkyl, hydroxyalkyl, aminoalkyl, alkylaminoalkyl, cycloalkyl, aryl, alkylaryl; R5R5 = alkyl, hydroxyalkyl, alkylene; R6 = H, OH, alkyl, alkoxyalkyl, hydroxyalkyl, aminoalkyl, alkylamino, alkylaminoalkyl, cycloalkyl, hydroxycycloalkyl, alkoxycycloalkyl, aryl, alkylaryl], were prepd. Thus, 2,4-bis(4-ethoxyiminoylphenyl)furan dihydrochloride (prepn. given) and iPrNH2 were stirred 24 h in EtOH to give 2,4-bis[4-[N-(isopropylamidino)phenyl]]furan dihydrochloride. The latter at 5 .mu.mol/kg/day in rats reduced Pneumocystis carinii lung cysts to 0.0003% of controls.

ACCESSION NUMBER: 1999:597470 CAPLUS
DOCUMENT NUMBER: 131:214184
TITLE: Preparation of 2,4-bis(4-amidinophenyl)furans as anti-pneumocystis carinii agents
INVENTOR(S): Boykin, David W.; Francesconi, Iris; Wilson, David W.; Tidwell, Richard R.
PATENT ASSIGNEE(S): University of North Carolina at Chapel Hill, USA; Georgia State University
SOURCE: Eur. Pat. Appl., 20 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

EP 941991	A1	19990915	EP 1998-305895	19980723 <--
EP 941991	B1	20011205		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
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AU 9877453	A1	19990909	AU 1998-77453	19980723 <--
AU 747448	B2	20020516		
EP 1130019	A1	20010905	EP 2000-128456	19980723
R: DE, FR, IT				
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GB 2343677	A1	20000517	GB 1999-27514	19980724
GB 2343677	B2	20000816		
JP 2000256343	A2	20000919	JP 1998-217593	19980731
US 6127554	A	20001003	US 1999-311437	19990514

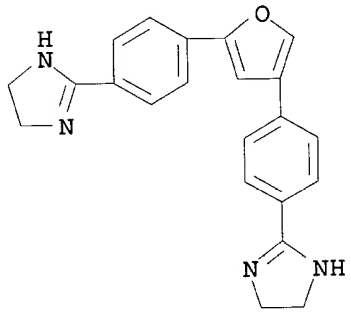
PRIORITY APPLN. INFO.:

US 1998-32586	A	19980227
EP 1998-305895	A3	19980723
GB 1998-16054	A3	19980724

OTHER SOURCE(S): MARPAT 131:214184

IT **229308-77-4P 229308-78-5P 229308-83-2P**
242807-42-7P 242807-43-8P 242807-44-9P
242807-45-0P 242807-46-1P 242807-47-2P
242807-48-3P 242807-49-4P 242807-50-7P
242807-51-8P 242807-52-9P 242807-53-0P
242807-54-1P 242807-55-2P 242807-56-3P
242807-57-4P 242807-58-5P 242807-59-6P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of 2,4-bis(4-amidinophenyl)furans as anti-pneumocystis carinii agents)

RN 229308-77-4 CAPLUS
CN 1H-Imidazole, 2,2'-(2,4-furandiyldi-4,1-phenylene)bis[4,5-dihydro-, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

RN 229308-78-5 CAPLUS
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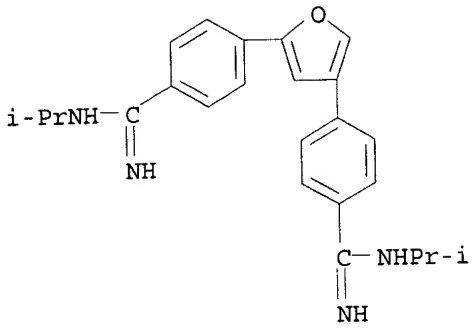

●2 HCl

RN 229308-83-2 CAPLUS
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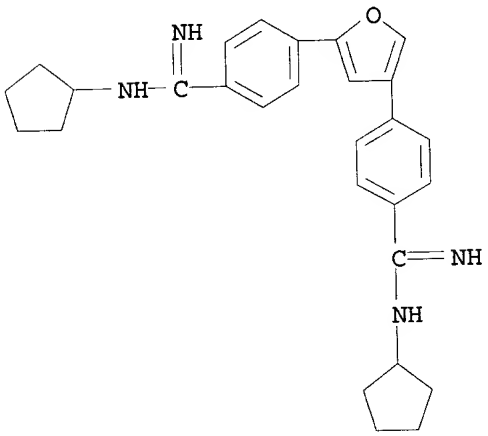

●2 HCl

RN 242807-42-7 CAPLUS
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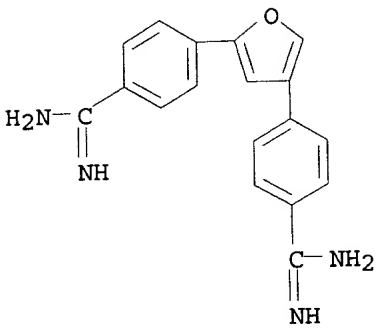

RN 242807-43-8 CAPLUS
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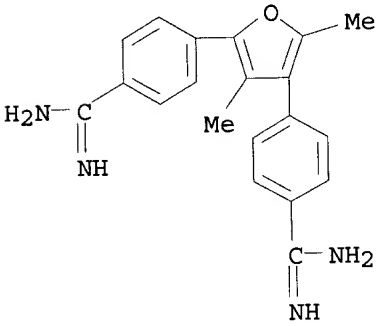

RN 242807-44-9 CAPLUS
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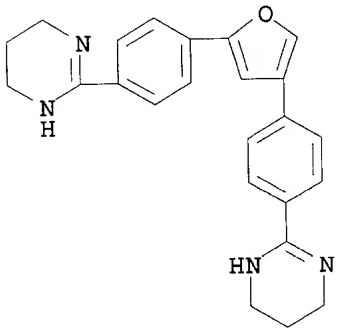

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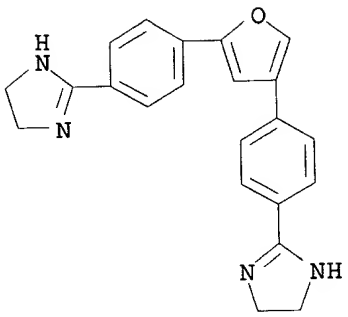

RN 242807-46-1 CAPLUS
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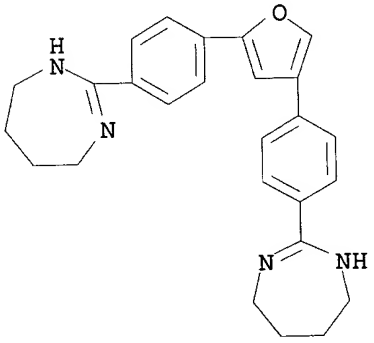
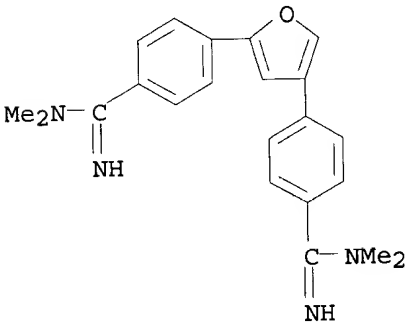


RN 242807-47-2 CAPLUS
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N,N-dimethyl- (9CI) (CA INDEX NAME)



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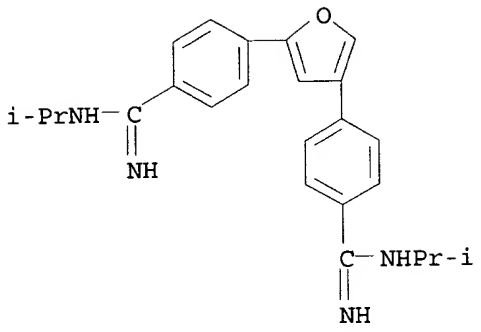
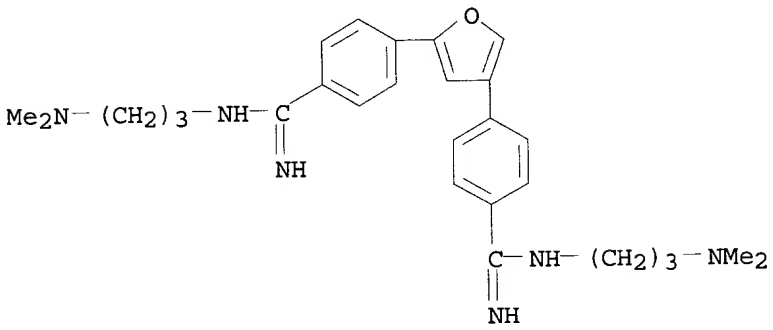
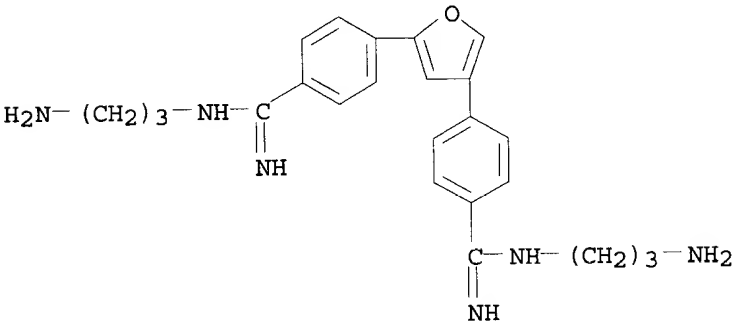
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-(1-methylethyl)- (9CI) (CA INDEX NAME)



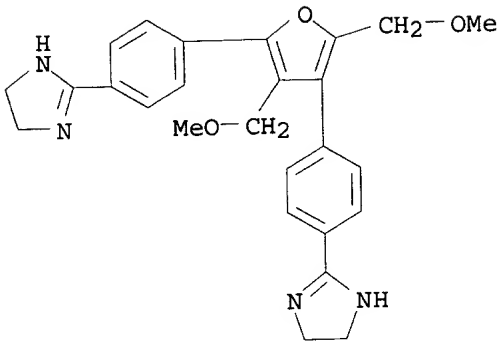
RN 242807-49-4 CAPLUS
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-[3-(dimethylamino)propyl]- (9CI) (CA INDEX NAME)



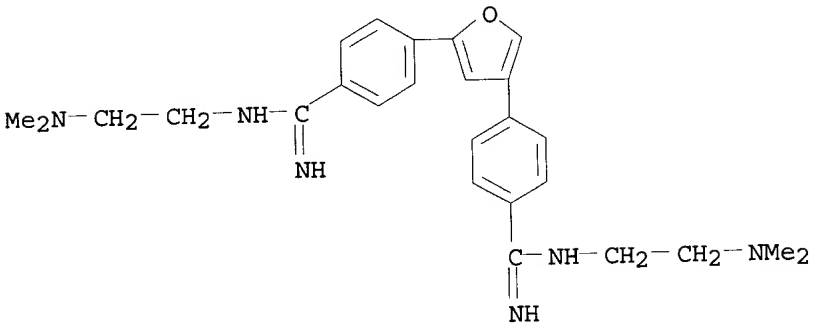
RN 242807-50-7 CAPLUS
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-(3-aminopropyl)- (9CI) (CA INDEX NAME)



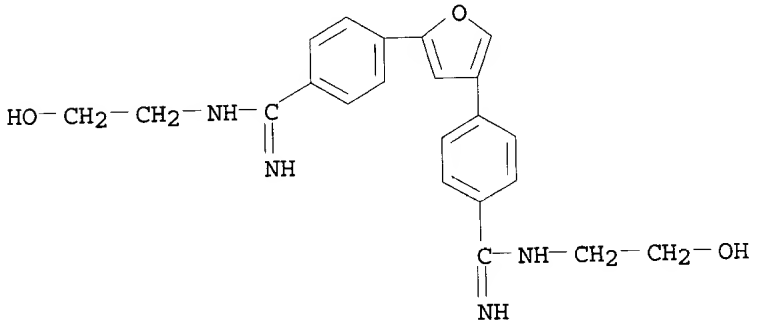
RN 242807-51-8 CAPLUS
CN 1H-Imidazole, 2,2'-[[3,5-bis(methoxymethyl)-2,4-furandiyl]di-4,1-phenylene]bis[4,5-dihydro- (9CI) (CA INDEX NAME)



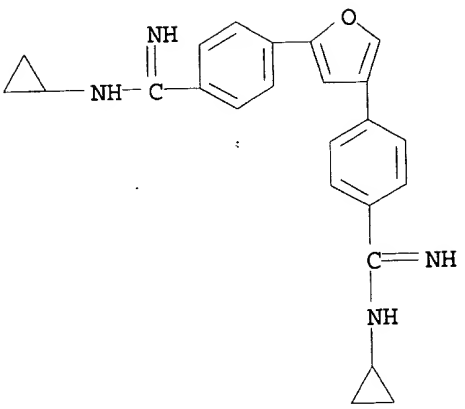
RN 242807-52-9 CAPLUS
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-[2-(dimethylamino)ethyl]- (9CI) (CA INDEX NAME)



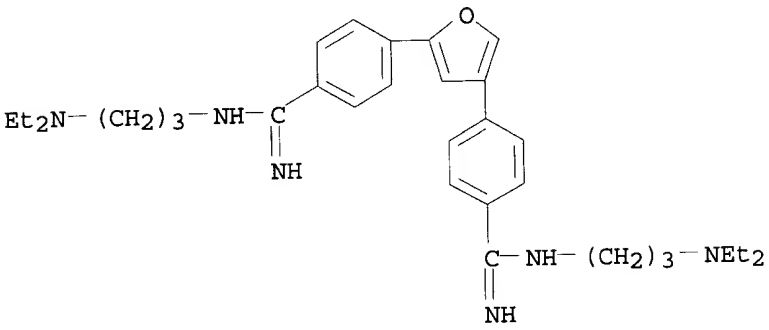
RN 242807-53-0 CAPLUS
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-(2-hydroxyethyl)- (9CI) (CA INDEX NAME)



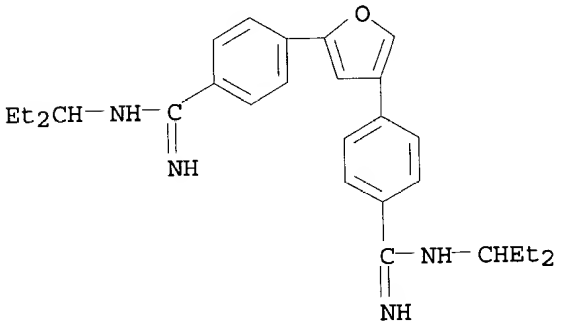
RN 242807-54-1 CAPLUS
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-cyclopropyl- (9CI) (CA INDEX NAME)



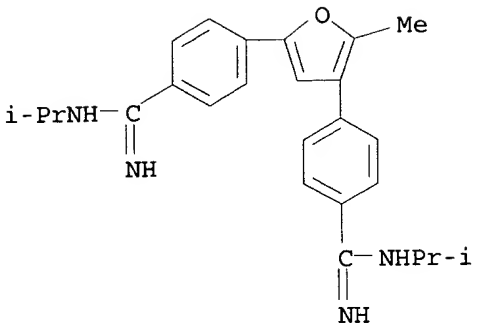
RN 242807-55-2 CAPLUS
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-[3-(diethylamino)propyl]- (9CI) (CA INDEX NAME)



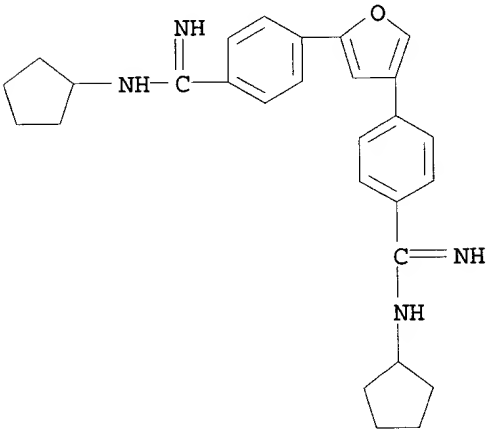
RN 242807-56-3 CAPLUS
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-(1-ethylpropyl)- (9CI) (CA INDEX NAME)



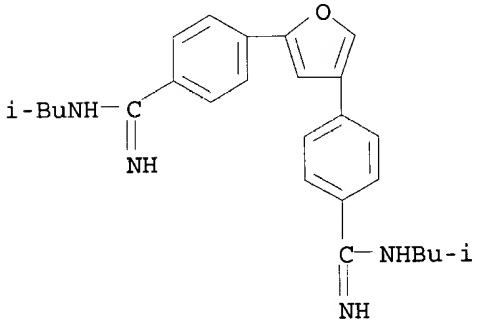
RN 242807-57-4 CAPLUS
CN Benzenecarboximidamide, 4,4'-(5-methyl-2,4-furandiyl)bis[N-(1-methylethyl)- (9CI) (CA INDEX NAME)



RN 242807-58-5 CAPLUS
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-cyclopentyl- (9CI) (CA INDEX NAME)



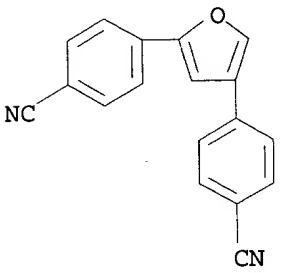
RN 242807-59-6 CAPLUS
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-(2-methylpropyl)- (9CI) (CA INDEX NAME)



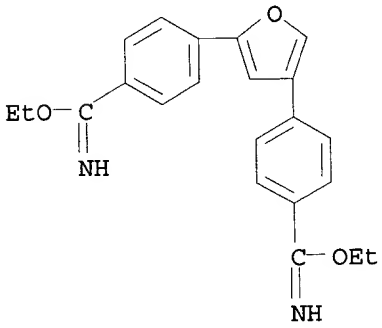
IT **229308-74-1P 229308-75-2P 229308-76-3P**
229308-81-0P 242807-61-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of 2,4-bis(4-amidinophenyl)furans as anti-pneumocystis carinii

agents)

RN 229308-74-1 CAPLUS
CN Benzonitrile, 4,4'-(2,4-furandiyl)bis- (9CI) (CA INDEX NAME)

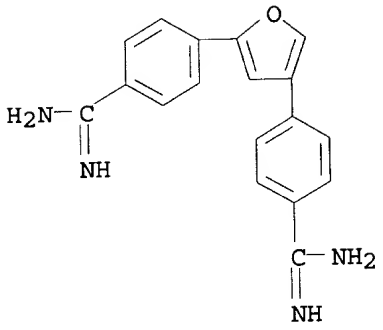


RN 229308-75-2 CAPLUS
CN Benzenecarboximidic acid, 4,4'-(2,4-furandiyl)bis-, diethyl ester, dihydrochloride (9CI) (CA INDEX NAME)



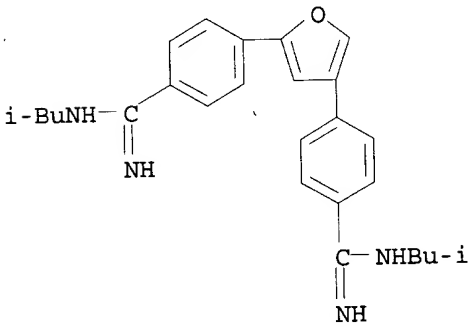
●2 HCl

RN 229308-76-3 CAPLUS
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis-, dihydrochloride (9CI) (CA INDEX NAME)



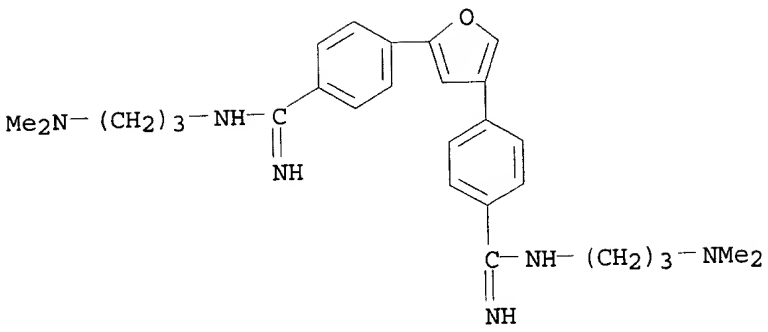
●2 HCl

RN 229308-81-0 CAPLUS
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-(2-methylpropyl)-, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

RN 242807-61-0 CAPLUS
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-[3-(dimethylamino)propyl]-, tetrahydrochloride (9CI) (CA INDEX NAME)



●4 HCl

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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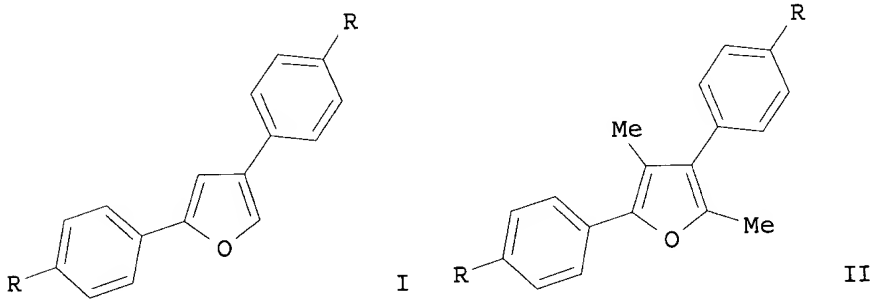
GI



I II

AB Dicationic 2,4-bis(4-amidinophenyl)furans I [R = C(NH2):NH.HCl, C(NHCHMe2):NH.HCl, C(:NH)NHR1.HCl, etc., R1 = cyclopentyl] and 2,4-bis(4-amidinophenyl)-3,5-dimethylfurans II [R = C(NH2):NH.HCl, C(NHCHMe2):NH.HCl] have been synthesized. Thermal melting studies revealed high binding affinity of the compds. to poly(dA-dT) and to the duplex oligomer d(CGCGAATTCGCG)2. All of the new compds. were effective against Pneumocystis carinii pneumonia in the immunosuppressed rat model with up to 200-fold increase in activity compared to the control compd. pentamidine. No toxicity was noted for I [R = C(NH2):NH.HCl, C(NHCHMe2):NH.HCl, C(NH-cyclopropyl):NH.HCl, C(NHCH2CHMe2):NH.HCl, C(NH-cyclopentyl):NH.HCl], at the dose of 10 .mu.mol/kg/d; however, the iso-Pr analog showed toxicity comparable to pentamidine at the dosage of 20 .mu.mol/kg/d. Dimethylation of the parent compd. on the furan ring resulted in reduced activity and increased toxicity.

ACCESSION NUMBER: 1999:294266 CAPLUS
DOCUMENT NUMBER: 131:87773
TITLE: 2,4-Diphenyl furan diamidines as novel anti-Pneumocystis carinii pneumonia agents

AUTHOR(S): Francesconi, Iris; Wilson, W. David; Tanious, Farial A.; Hall, James E.; Bender, Brendan C.; Tidwell, Richard R.; McCurdy, Donald; Boykin, David W.

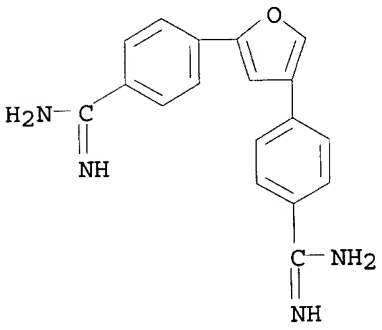
CORPORATE SOURCE: Department of Chemistry and Center for Biotechnology and Drug Design, Georgia State University, Atlanta, GA, 30303-3083, USA

SOURCE: Journal of Medicinal Chemistry (**1999**), 42(12), 2260-2265
CODEN: JMCMAR; ISSN: 0022-2623

PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

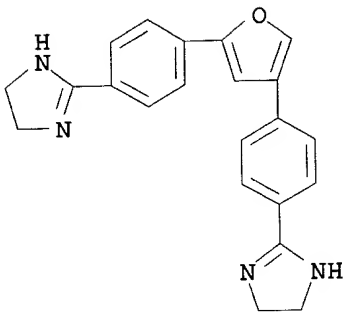
IT **229308-76-3P 229308-77-4P 229308-78-5P**
229308-79-6P 229308-81-0P 229308-83-2P
229308-87-6P 229308-88-7P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(prepn., DNA binding, and anti-pneumocystis carinii pneumonia activity of diphenylfuran diamidines)

RN 229308-76-3 CAPLUS
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis-, dihydrochloride (9CI) (CA INDEX NAME)



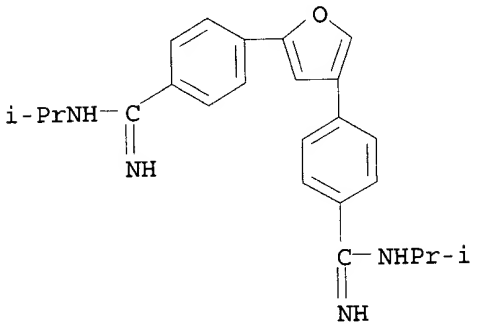
●2 HCl

RN 229308-77-4 CAPLUS
CN 1H-Imidazole, 2,2'-(2,4-furandiyldi-4,1-phenylene)bis[4,5-dihydro-, dihydrochloride (9CI) (CA INDEX NAME)



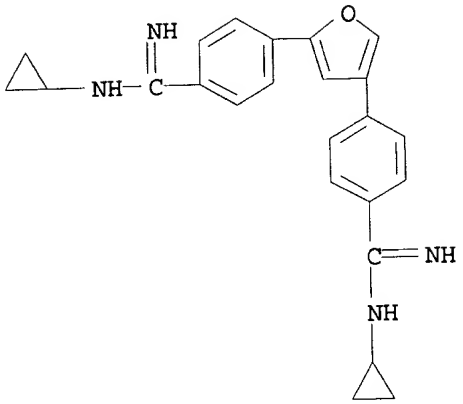
●2 HCl

RN 229308-78-5 CAPLUS
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-(1-methylethyl)-, dihydrochloride (9CI) (CA INDEX NAME)



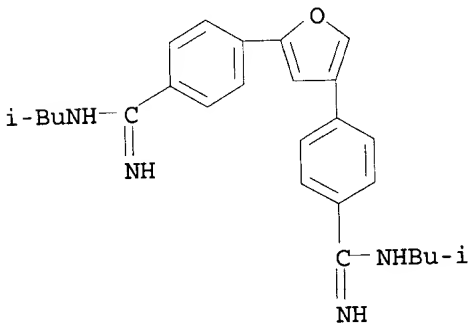
●2 HCl

RN 229308-79-6 CAPLUS
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-cyclopropyl-, dihydrochloride (9CI) (CA INDEX NAME)



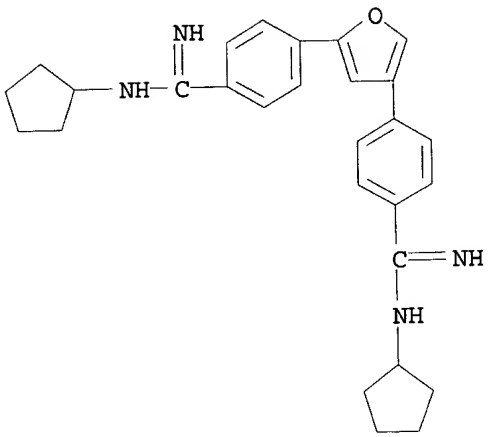
●2 HCl

RN 229308-81-0 CAPLUS
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-(2-methylpropyl)-, dihydrochloride (9CI) (CA INDEX NAME)



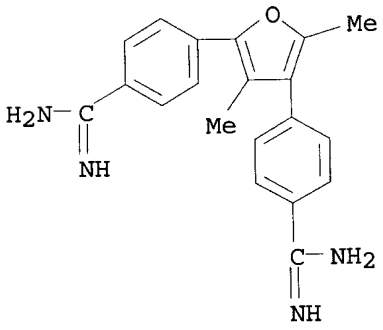
●2 HCl

RN 229308-83-2 CAPLUS
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-cyclopentyl-, dihydrochloride (9CI) (CA INDEX NAME)



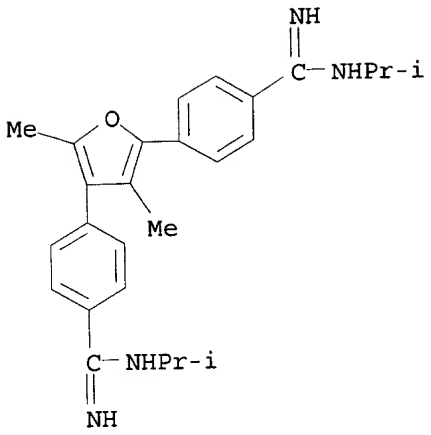
●2 HCl

RN 229308-87-6 CAPLUS
CN Benzenecarboximidamide, 4,4'-(3,5-dimethyl-2,4-furandiyl)bis-, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

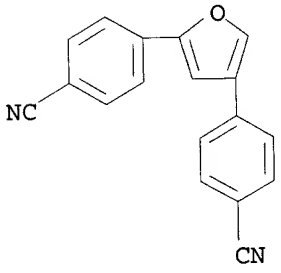
RN 229308-88-7 CAPLUS
CN Benzenecarboximidamide, 4,4'-(3,5-dimethyl-2,4-furandiyl)bis[N-(1-methylethyl)-, dihydrochloride (9CI) (CA INDEX NAME)



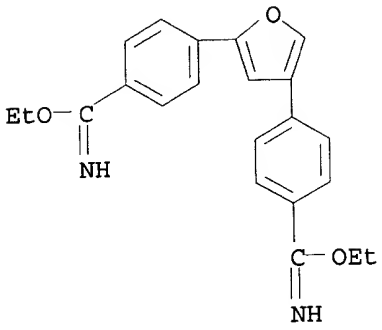
●2 HCl

IT **229308-74-1P 229308-75-2P 229308-84-3P**
229308-86-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn., DNA binding, and anti-pneumocystis carinii pneumonia activity of diphenylfuran diamidines)

RN 229308-74-1 CAPLUS
CN Benzonitrile, 4,4'-(2,4-furandiyl)bis- (9CI) (CA INDEX NAME)

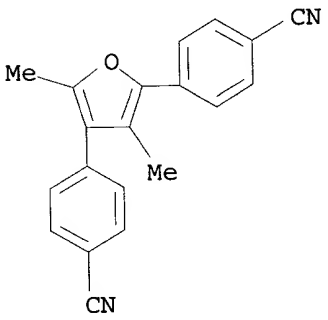


RN 229308-75-2 CAPLUS
CN Benzenecarboximidic acid, 4,4'-(2,4-furandiyl)bis-, diethyl ester, dihydrochloride (9CI) (CA INDEX NAME)

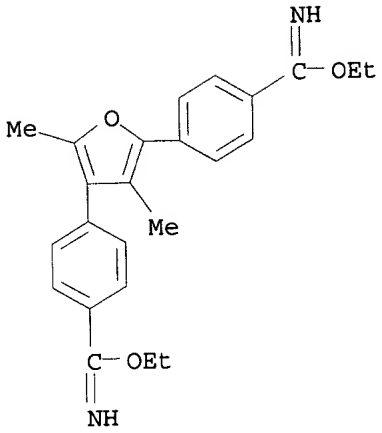


●2 HCl

RN 229308-84-3 CAPLUS
CN Benzonitrile, 4,4'-(3,5-dimethyl-2,4-furandiyl)bis- (9CI) (CA INDEX NAME)



RN 229308-86-5 CAPLUS
CN Benzenecarboximidic acid, 4,4'-(3,5-dimethyl-2,4-furandiyl)bis-, diethyl ester, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

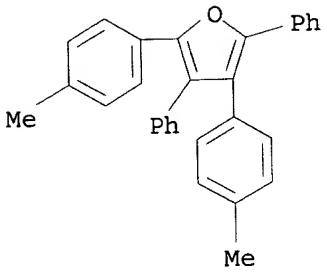
L10 ANSWER 3 OF 14 CAPLUS COPYRIGHT 2002 ACS

AB Oxidn. of unsym. diarylacetylenes ArC.tplbond.CAr' in the CF3COOH-CH2Cl2-PbO2 system at 0-2.degree.C in 1-3 h yields either pure 1,2,3,4-tetraaryl-2-butene-1,4-diones or mixts. of three isomeric .gamma.-diketones Ar(Ar'CO)C:C(COAr')Ar, Ar'(ArCO)C:C(COAr)Ar', and Ar'(ArCO)C:C(COAr')Ar, which are predominantly Z isomers. The effect of electronic properties of the substituents in diarylacetylenes on the regio- and stereoselectivity of the reaction is discussed.

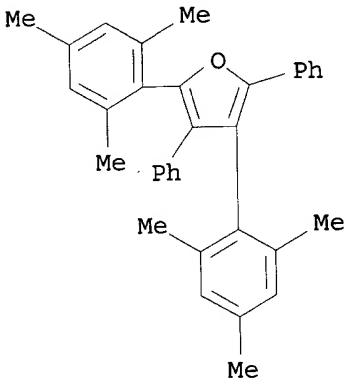
ACCESSION NUMBER: 1998:478061 CAPLUS
DOCUMENT NUMBER: 129:202730
TITLE: Oxidation of aromatic compounds. VI. Oxidation of unsymmetrical diarylacetylenes in the CF3COOH-CH2Cl2-PbO2 system
AUTHOR(S): Vasil'ev, A. V.; Rudenko, A. P.
CORPORATE SOURCE: St. Petersburg Academy of Wood Engineering, St. Petersburg, 194021, Russia
SOURCE: Russian Journal of Organic Chemistry (Translation of Zhurnal Organicheskoi Khimii) (**1997**), 33(11), 1555-1584
CODEN: RJOCEQ; ISSN: 1070-4280
PUBLISHER: MAIK Nauka/Interperiodica Publishing
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 129:202730

IT **212002-26-1P 212002-28-3P 212002-29-4P**
212002-30-7P 212002-46-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(oxidative dimerization of unsym. diarylacetylenes in the CF3COOH-CH2Cl2-PbO2 system)

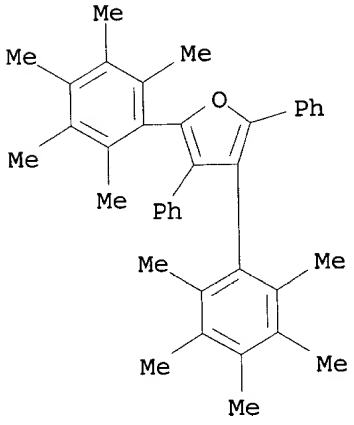
RN 212002-26-1 CAPLUS
CN Furan, 2,4-bis(4-methylphenyl)-3,5-diphenyl- (9CI) (CA INDEX NAME)



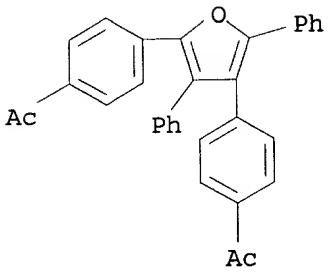
RN 212002-28-3 CAPLUS
CN Furan, 2,4-diphenyl-3,5-bis(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)



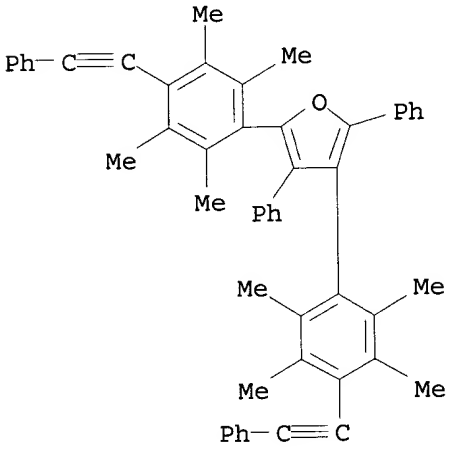
RN 212002-29-4 CAPLUS
CN Furan, 2,4-bis(pentamethylphenyl)-3,5-diphenyl- (9CI) (CA INDEX NAME)



RN 212002-30-7 CAPLUS
CN Ethanone, 1,1'-[(3,5-diphenyl-2,4-furandiyl)di-4,1-phenylene]bis- (9CI) (CA INDEX NAME)



RN 212002-46-5 CAPLUS
CN Furan, 2,4-diphenyl-3,5-bis[2,3,5,6-tetramethyl-4-(phenylethynyl)phenyl]-
(9CI) (CA INDEX NAME)



REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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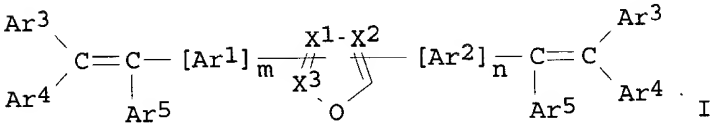


AB Title materials are oxazole derivs. I [X1-3 = N, CH, or C bonding with Ar1 or Ar2, where X1 or X3 is C; Ar1-2 = arylene; Ar3-5 = H, cyano, (cyclo) alkyl, aryl, heterocycle; m, n = 0-4]. Electroluminescent devices including layers (preferably emitting layers) contg. I are also claimed.

ACCESSION NUMBER: 1998:361085 CAPLUS
DOCUMENT NUMBER: 129:47261
TITLE: Organic electroluminescent materials and devices using

the same with high luminance and long life

INVENTOR(S): Okutsu, Satoshi; Onikubo, Shunichi; Tamano, Michiko; Enokida, Toshio

PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

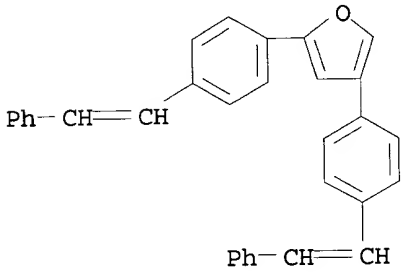
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10152676	A2	19980609	JP 1996-313289	19961125 <--

OTHER SOURCE(S): MARPAT 129:47261

IT **208124-87-2 208124-88-3 208124-89-4**
208124-90-7 208124-91-8 208125-00-2
RL: DEV (Device component use); USES (Uses)
(org. electroluminescent devices including unsatd.-group-contg. oxazole derivs. with high luminance and long life)

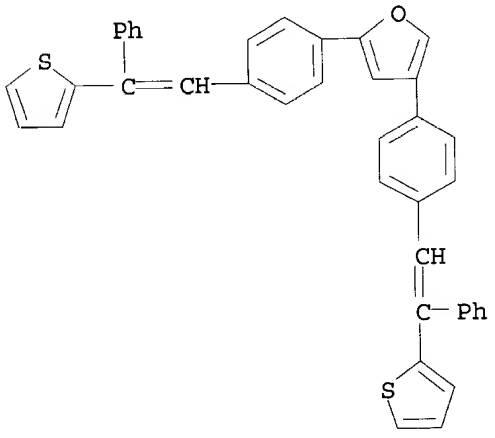
RN 208124-87-2 CAPLUS

CN Furan, 2,4-bis[4-(2-phenylethenyl)phenyl]- (9CI) (CA INDEX NAME)

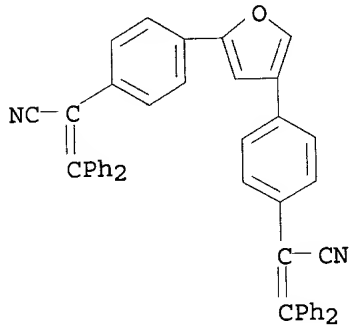


RN 208124-88-3 CAPLUS

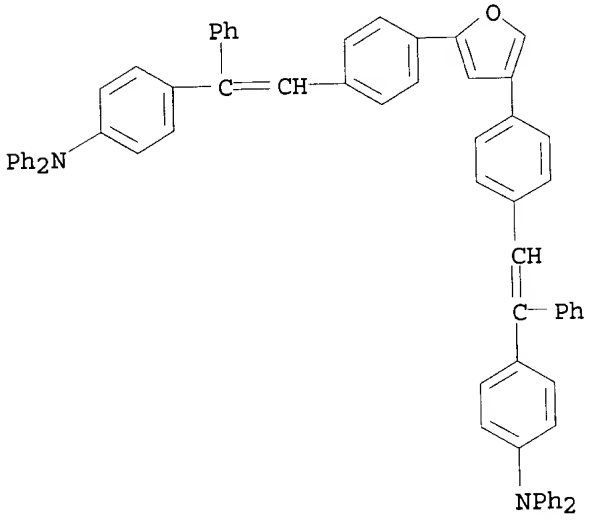
CN Furan, 2,4-bis[4-[2-phenyl-2-(2-thienyl)ethenyl]phenyl]- (9CI) (CA INDEX NAME)



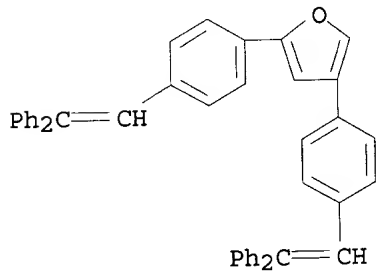
RN 208124-89-4 CAPLUS
CN Benzeneacetonitrile, 4,4'-(2,4-furandiyl)bis[.alpha.-(diphenylmethylene)- (9CI) (CA INDEX NAME)

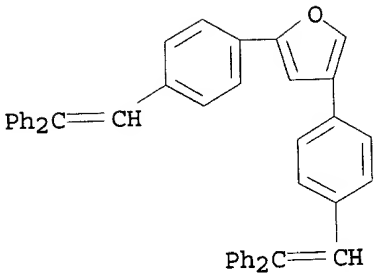


RN 208124-90-7 CAPLUS
CN Benzenamine, 4,4'-[2,4-furandiylbis[4,1-phenylene(1-phenyl-2,1-ethenediyl)]]bis[N,N-diphenyl- (9CI) (CA INDEX NAME)



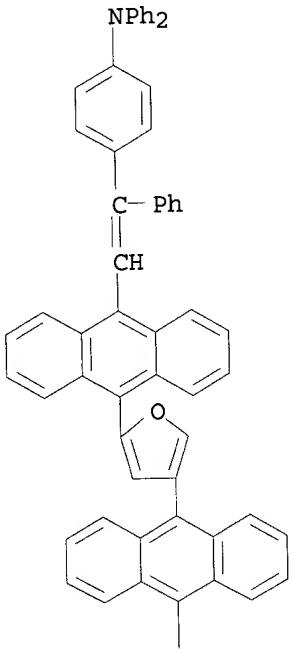
RN 208124-91-8 CAPLUS
CN Furan, 2,4-bis[4-(2,2-diphenylethenyl)phenyl]- (9CI) (CA INDEX NAME)



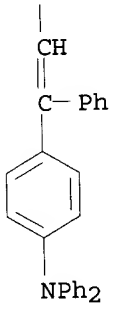


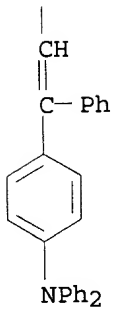
RN 208125-00-2 CAPLUS
CN Benzenamine, 4,4'-[2,4-furandiylbis[10,9-anthracenediyl(1-phenyl-2,1-ethenediyl)]]bis[N,N-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A





L10 ANSWER 5 OF 14 CAPLUS COPYRIGHT 2002 ACS

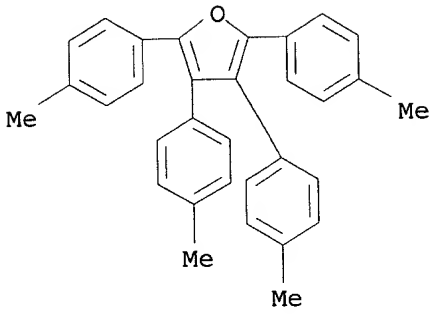
AB Selenophene 1,1-dioxides are thermally far more labile than the corresponding thiophene 1,1-dioxides. Even heavily substituted tetraphenylselenophene 1,1-dioxide (I) decompd., by a process not involving cyclodimerization, when heated above its m.p. or heated in refluxing toluene. Thus, the thermolysis of I in refluxing toluene afforded tetraphenylselenophene (II) 6, tetraphenylfuran 71, (Z)-1,2,3,4-tetraphenyl-2-butene-1,4-dione (III) 19, (E)-1,2,3,4-tetraphenyl-2-butene-1,4-dione (IV) 4, SeO2 23, and Se 22%, while that of the neat sample gave II 5, III 78, IV 17, SeO2 17, and Se 29%. Similar results were also obtained on thermolysis of a series of selenophene 1,1-dioxides. The exptl. observations (influence of solvents, oxygen, and additive such as diene to the decompn. rate and the presence of induction period) revealed that the mechanism of the decompn. is highly complex. A tentative mechanism that can explain the obsd. products is presented.

ACCESSION NUMBER: 1998:211855 CAPLUS
DOCUMENT NUMBER: 128:282761
TITLE: Thermolysis of selenophene 1,1-dioxides
AUTHOR(S): Umezawa, Takashi; Matsui, Tomoki; Sugihara, Yoshiaki; Ishii, Akihiko; Nakayama, Juzo
CORPORATE SOURCE: Dep. Chem., Fac. Sci., Saitama Univ., Saitama, 338, Japan
SOURCE: Heterocycles (**1998**), 48(1), 61-69
CODEN: HTCYAM; ISSN: 0385-5414
PUBLISHER: Japan Institute of Heterocyclic Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English

IT **99643-62-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(thermolysis of selenophene 1,1-dioxides)

RN 99643-62-6 CAPLUS

CN Furan, tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)

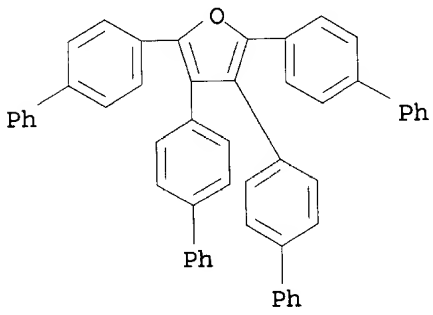


L10 ANSWER 6 OF 14 CAPLUS COPYRIGHT 2002 ACS
AB The title reactions were carried out at 0-20.degree. for 1-3 h and yielded (Z)-1,2,3,4-tetraarylbut-2-ene-1,4-diones.

ACCESSION NUMBER: 1996:335502 CAPLUS
DOCUMENT NUMBER: 125:114246
TITLE: Oxidation of aromatic compounds. IV. Oxidation of symmetrical diarylacetylenes in the CF3COOH-CH2Cl2-PbO2 system. Novel one-reactor method for synthesis of 1,2,3,4-tetraarylbut-2-ene-1,4-diones
AUTHOR(S): Rudenko, A. P.; Vasil'ev, A. V.
CORPORATE SOURCE: St. Peterburg. Lesotekh. Akad., St. Petersburg, Russia
SOURCE: Zhurnal Organicheskoi Khimii (**1995**), 31(10), 1502-1522
CODEN: ZORKAE; ISSN: 0514-7492
PUBLISHER: Nauka
DOCUMENT TYPE: Journal
LANGUAGE: Russian

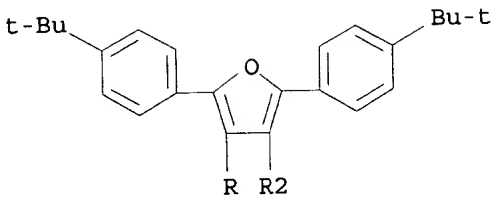
IT **105770-34-1P 179244-56-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(oxidn. of diarylacetylenes in the CF3COOH-CH2Cl2-PbO2 system)

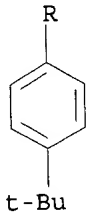
RN 105770-34-1 CAPLUS
CN Furan, tetrakis([1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)



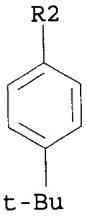
RN 179244-56-5 CAPLUS
CN Furan, tetrakis[4-(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A





PAGE 2-A



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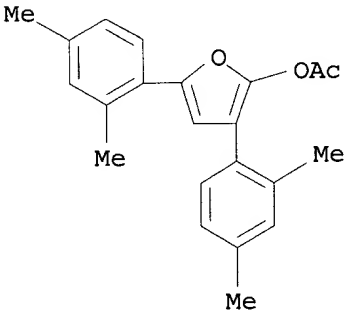
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The hitherto unknown 4,6-diaryl-2,3,4,5- tetrahydropyridazin-3-ones I (Ar = Ar' = 2,4-Me2C6H3; Ar = 3,4-Me2C6H3, 2-Br-4-Me-C6H3, Ar' = 2,5-Me2C6H3, 2,4-Me2C6H3, 3,4-Me2C6H3, 2-Me-5-CHMe2C6H3) were synthesized from the .alpha.-aryl, .beta.-aroylpropionic acids ArCOCH2CHAr'CO2H by their reaction with hydrazine hydrate. I (Ar = Ar' = 2,4-Me2C6H3) afforded the corresponding 3-chloropyridazine deriv. on its reaction with POCl3, PCl5. The 3-chloropyridazine was treated with sodium azide producing the tetrazolopyridazine deriv. II or with acylhydrazines Ar'CONHNH2 (Ar = Ph, 2-HOC6H4, 3-pyridinyl) to give the triazolopyridazine derivs. III. Other pyridazine derivs. and butenolides were also prepd.

ACCESSION NUMBER: 1996:233054 CAPLUS
DOCUMENT NUMBER: 125:10725
TITLE: Synthesis and reactions of 4,6-diaryl-2,3,4,5-tetrahydropyridazin-3-ones
AUTHOR(S): Sayed, M.A.; El- Khamry, A.A.; Soliman, A.Y.; Afify,

A.A.; Kassab, E.A.
CORPORATE SOURCE: Faculty of Science, Ain Shams University, Cairo, Egypt
SOURCE: Egyptian Journal of Chemistry (**1995**), 38(1), 1-13
CODEN: EGJCA3; ISSN: 0367-0422
PUBLISHER: National Information and Documentation Centre
DOCUMENT TYPE: Journal
LANGUAGE: English

IT **120996-43-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reactions of diarylpyridazinones)
RN 120996-43-2 CAPLUS
CN 2-Furanol, 3,5-bis(2,4-dimethylphenyl)-, acetate (9CI) (CA INDEX NAME)



L10 ANSWER 8 OF 14 CAPLUS COPYRIGHT 2002 ACS
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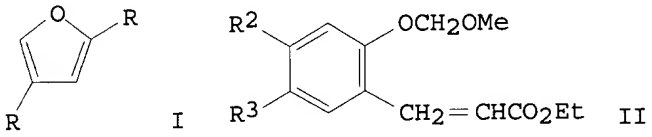
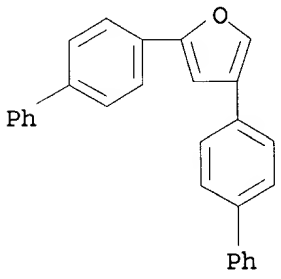


AB The enolates, generated from phenacyl bromides RCOCH2Br (R = Ph, 4-R1C6H4, R1 = Br, Cl, Ph) by sodium telluride, yield 2,4-diarylfurans I in addn. to the expected dehalogenation products. No 1,4-dicarbonyl compds. could be isolated even in the presence of excess oxidizing agent, CuCl2. Condensation of 2-(methoxymethoxy)arenecarboxaldehydes with Et bromoacetate in the presence of sodium telluride gave the expected .alpha.,.beta.-unsatd. esters II (R2 = H, R3 = H, Cl; R2 = NEt2, R3 = H) which resisted cyclization to yield the desired coumarin derivs. Attempted intramol. Reformatsky-type reaction of 2-(bromoacetoxy)benzaldehyde gave only 6,12-epoxy-6H,12H-dibenzo[b,f][1,5]dioxocin as the major product.
ACCESSION NUMBER: 1990:55487 CAPLUS
DOCUMENT NUMBER: 112:55487
TITLE: Formation of furan derivatives from phenacyl bromides and sodium telluride; attempted extension to coumarin synthesis

AUTHOR(S): Padmanabhan, Seetharamaiyer; Ogawa, Takuji; Suzuki, Hitomi
CORPORATE SOURCE: Fac. Sci., Ehime Univ., Matsuyama, 790, Japan
SOURCE: Bull. Chem. Soc. Jpn. (**1989**), 62(6), 2114-16
CODEN: BCSJA8; ISSN: 0009-2673
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 112:55487

IT **79421-36-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 79421-36-6 CAPLUS
CN Furan, 2,4-bis([1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)



L10 ANSWER 9 OF 14 CAPLUS COPYRIGHT 2002 ACS
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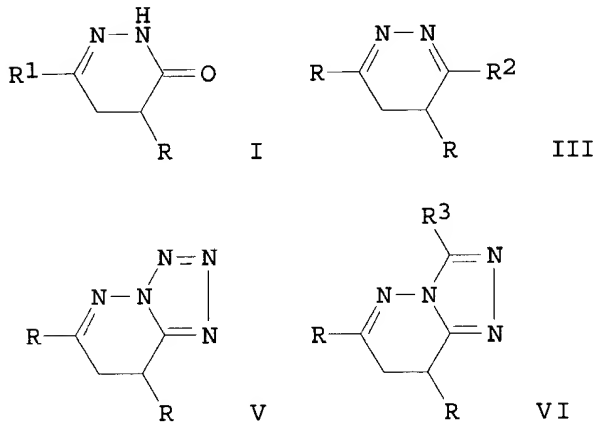


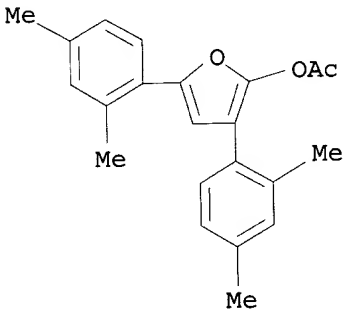
AB 4,6-Diarylpyridazinones I (R, R1 = substituted Ph) were prepd. by the reaction of R1COCH2CHR(O2H with N2H4. I (R = R1 = 2,4-Me2C6H3) (II) reacted with PCl5/POCl3 to give 3-chloropyridazine III (R = 2,4-Me2C6H3, R2 = Cl) (IV). Reaction of IV with NaN3 and R3CONHNH2 (R3 = Ph, 2-HOC6H4, 3-pyridinyl) gave tetrazolopyridazine V and triazolopyridazines VI, resp. Reaction of II with R4CH2COCl (R4 = H, Cl) gave acylpyridazines III (R2 =

O2CCH2R4). Other reactions of I are also reported.

ACCESSION NUMBER: 1989:407321 CAPLUS
DOCUMENT NUMBER: 111:7321
TITLE: Synthesis and reactions of 4,6-diaryl-2,3,4,5-tetrahydropyridazin-3-ones
AUTHOR(S): Sayed, M. A.; El-Khamry, A. A.; Soliman, A. Y.; Afify, A. A.; Kassab, E. A.
CORPORATE SOURCE: Fac. Sci., Ain Shams Univ., Cairo, Egypt
SOURCE: J. Chem. Soc. Pak. (**1988**), 10(3), 315-24
CODEN: JCSPDF; ISSN: 0253-5106
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 111:7321

IT **120996-43-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and reaction with hydrazines, pyridazinones from)

RN 120996-43-2 CAPLUS
CN 2-Furanol, 3,5-bis(2,4-dimethylphenyl)-, acetate (9CI) (CA INDEX NAME)



L10 ANSWER 10 OF 14 CAPLUS COPYRIGHT 2002 ACS
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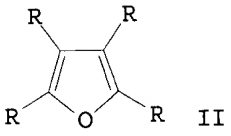
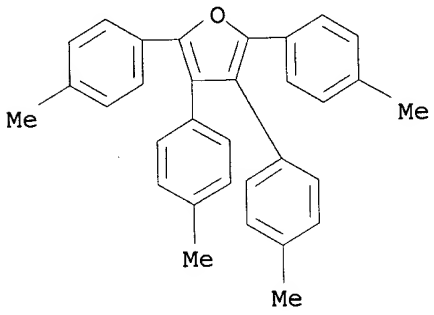


II

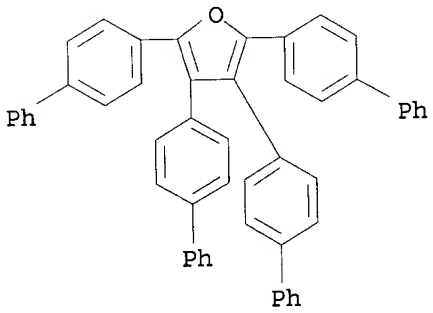
AB RCOCH(OH)R (I; R = Ph, 4-MeC6H4, 3-MeC6H4, 4-ClC6Hu, 4-FC6H4, 4-PhC6H4) reacted readily with Me3CI to give mixts. of RCOCH2R and tetraarylfurans II. I [R = 4-MeOC6H4, 1-naphthyl, 3,4-(CH2O2)C6H3] gave only RCOCH2R.

ACCESSION NUMBER: 1987:18278 CAPLUS
DOCUMENT NUMBER: 106:18278
TITLE: Iodotrimethylsilane reduction of benzoins: synthesis of deoxybenzoins and tetraarylfurans
AUTHOR(S): Krepski, Larry R.; Heilmann, Steven M.; Rasmussen, Jerald K.; Tumey, Michael L.; Smith, Howell K., II
CORPORATE SOURCE: 3M Cent., 3M Co., St. Paul, MN, 55144, USA
SOURCE: Synth. Commun. (**1986**), 16(4), 377-86
CODEN: SYNCAV; ISSN: 0039-7911

DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 106:18278
IT **99643-62-6P 105770-34-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 99643-62-6 CAPLUS
CN Furan, tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)



RN 105770-34-1 CAPLUS
CN Furan, tetrakis([1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)



L10 ANSWER 11 OF 14 CAPLUS COPYRIGHT 2002 ACS
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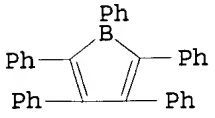


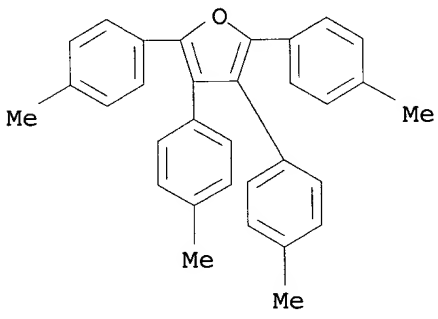
I

AB Pentasubstituted boroles, e.g., I, or boracyclopentadienes have been prepd. by two routes: (1) the interaction of an (E,E)-(1,2,3,4-tetraaryl-1,3-butadien-1,4-ylidene)dilithium in ether soln. with any aryl(dihalo)borane to form the borole etherate; and (2) the exchange reaction between a 1,1-dialkyl-2,3,4,5-tetraarylstannole in nondonor media to produce the unsolvated borole. The boroles are unexpectedly strong

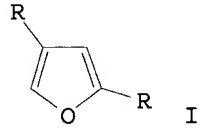
Lewis acids, complexing with amines and even ethers and nitriles, and very prone to oxidn., solvolytic cleavage, and Diels-Alder reactions. The foregoing chem. behavior, taken together with their unusual nuclear magnetic and electronic spectral properties, can be straightforwardly interpreted in terms of the Hueckel antiarom. character of the 4-.pi.-electron boracyclopentadiene nucleus. By treating such nuclei as perturbed cyclopentadienyl .pi.-systems, a qual. understanding of both the spectral and chem. properties can be attained. From such considerations, it is evident that the conjugation between the tricoordinate boron's 2pz-orbital and the 4 carbon butadienylidene array is destabilizing and is the source of the high reactivity of boroles.

ACCESSION NUMBER: 1986:109733 CAPLUS
DOCUMENT NUMBER: 104:109733
TITLE: Bora-aromatic systems. Part 8. The physical and chemical consequences of cyclic conjugation in boracyclopolyenes. The antiaromatic character of pentaarylboroles
AUTHOR(S): Eisch, John J.; Galle, James E.; Kozima, Sinpei
CORPORATE SOURCE: Dep. Chem., State Univ. New York, Binghamton, NY, 13901, USA
SOURCE: J. Am. Chem. Soc. (**1986**), 108(3), 379-85
CODEN: JACSAT; ISSN: 0002-7863
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 104:109733

IT **99643-62-6P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and reactions of)
RN 99643-62-6 CAPLUS
CN Furan, tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)



L10 ANSWER 12 OF 14 CAPLUS COPYRIGHT 2002 ACS
GI



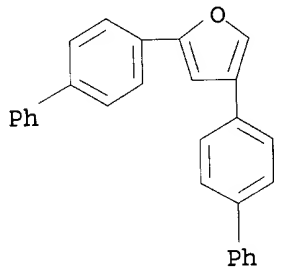
I

AB Phenacyl bromides RCOCH2Br (R = Ph, anisyl, biphenylyl, halophenyl, O2NC6H4) underwent electrochem. redn. to the resp. furans I. Thus, PhCOCH2Br (in a catholyte contg. LiClO4 and DMF, anolyte: LiClO4 in DMF) was reduced to give I (R = Ph).

ACCESSION NUMBER: 1981:568885 CAPLUS
DOCUMENT NUMBER: 95:168885
TITLE: Electrochemical synthesis of 2,4-diarylfurans
AUTHOR(S): Barba, Fructuoso; Velasco, M. Desamparados; Guirado, Antonio
CORPORATE SOURCE: Fac. Sci., Univ. Murcia, Murcia, Spain
SOURCE: Synthesis (**1981**), (8), 625-6
CODEN: SYNTBF; ISSN: 0039-7881
DOCUMENT TYPE: Journal
LANGUAGE: English

IT **79421-36-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 79421-36-6 CAPLUS
CN Furan, 2,4-bis([1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)



L10 ANSWER 13 OF 14 CAPLUS COPYRIGHT 2002 ACS

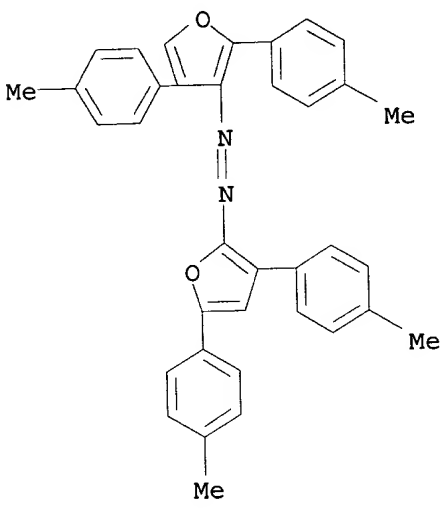
AB cf. CA 62, 7903d. Aryl-substituted furandiazonium fluoroborates show, in part, reactions which differ from those of benzenediazonium salts. ArCOCHN2 (I) (Ar = p-tolyl) (3.2 g.) in 25 cc. PhMe treated with 1.1 cc. BF3.Et2O and 1 cc. p-MeC6H4COCl under anhyd. conditions and the soln. heated 10 min. at 60-70.degree. until the end of N evolution, cooled, dild. with an equal vol. Et2O, and kept cold 0.5 hr. gave 29.0% 2,4-di(p-tolyl)-5-furandiazonium fluoroborate (II), decompd. above 140.degree. (Me2CO-Et2O). Similar treatment of I (Ar = m-tolyl) gave 19.6% 2,5-di(m-tolyl)-5-furandiazonium fluoroborate (III), decompd. 150-5.degree. (Me2CO-Et2O). II suspended in a 10-fold amt. MeOH (III and its m-Cl analog in a 5-fold amt. MeOH) boiled .apprx.10 min. and cooled gave the following compds., resp.: 76% 2,2',4,4'-tetra(p-tolyl)-5,3'-azofuran, leaflets with Cu luster, m. 237-9.degree. (AcOH); 28% 2,2',5,5'-tetra(m-tolyl)-4,3'-azofuran, dark red, m. 131-4.degree. (AcOH); 40% 2,2',5,5'-tetrakis(p-chlorophenyl)-4,3'-azofuran, pale red, 162-4.degree. (AcOH). II (1.0 g.) suspended in 50 cc. cold EtOH treated with a catalytic amt. Naturkupfer C, when the reaction subsided (N evolution) the soln. filtered hot and kept several hrs. in a deep-freeze unit, and the dried product chromatographed on Al2O3 with ligroine gave 80.1% 2,4-di(p-tolyl)furan, colorless, m. 130-1.degree. (ligroine). Similarly were prepd. 69.7% 2,4-bis(p-chlorophenyl)furan (IV), m. 128-9.degree. (ligroine), and 93.0% 2,5-bis(m-chlorophenyl)furan, m. 93-4.degree. (ligroine). KI (3.3 g.) in 20 cc. H2O mixed with 20 cc.

Me2CO, 20 cc. ligroine, and a catalytic amt. Naturkupfer C, 1.67 g. 2,4-diphenyl-5-furandiazonium fluoroborate (V) added portionwise during 1 hr. with stirring, the mixt. stirred 1 hr., the ppt. filtered off and washed with ligroine, the org. phase sepd., dried, and evapd. to dryness in vacuo, the residue chromatographed (2,2',4,4'-tetraphenyl-5,3'-azofuran remained on the column), the eluate evapd. to dryness in vacuo, and the residue digested with a little ligroine (2,4-diphenylfuran extd.) and recrystd. from 10 cc. ligroine gave 0.46 g. 2,4-diphenyl-5-iodofuran, decompd. 123-4.degree.. 2,4-Bis(p-chlorophenyl)-5-furandiazonium fluoroborate treated similarly (the iodide, which gave a yellow-green color with concd. H2SO4, was eluted before IV, which gave a blue fluorescence with concd. H2SO4; the elution was interrupted when an evapd. drop of eluate showed a blue fluorescence with concd. H2SO4) gave 27.2% 2,4-bis(p-chlorophenyl)-5-iodofuran, decompd. 168-70.degree. (ligroine). Similar treatment of 2,4-di(2-naphthyl)-5-furandiazonium fluoroborate except that HCONMe2 was used in lieu of Me2CO and the product was chromatographed with 8:2 ligroine-C6H6 gave 2.2% 2,4-di(2-naphthyl)-5-iodofuran, decompd. 157-9.degree. (ligroine). V (3.34 g.) added during 1 hr. to a mixt. of 8 g. NaAsO2 and 1 g. Na2CO3 in 80 cc. H2O, a catalytic amt. CuCl, and 40 cc. Et2O with stirring, the mixt. stirred 2.5 hrs., Et2O evapd., the soln. filtered and acidified with 2N HCl, and the ppt. filtered off and repptd. from aq. NH3 with 2N HCl gave 3.2% 2,4-diphenyl-5-furanarsonic acid, m. 328-9.degree. (tetrahydrofuran-ligroine). V (3.34 g.) in 260 cc. cold Me2CO added dropwise during 1 hr. to a hot (60-70%) soln. of 2.4 g. KSCSOEt in 50 cc. H2O with stirring (Me2CO was continuously distd. during the addn. and finally was removed completely), the soln. cooled, dild. with 40 cc. Et2O, and refrigerated 1 hr., the ppt. filtered off, washed with Et2O, and extd. twice with boiling C6H6, and the combined exts. dild. with ligroine gave, in 2 crops, 0.6 g. (RS)2CO (VI) (R = 2,4-diphenyl-5-furyl) (VII), m. 191-2.degree. (C6H6). Similarly was prepd. 6.4% VI [R = 2,4-di(p-tolyl)-5-furyl], m. 196-200.degree. (C6H6). VII (0.6 g.) suspended in 100 cc. EtOH refluxed 3 hrs. with 30 cc. 10% MeOH-KOH, .apprx.100 cc. EtOH distd., the residual liquid dild. with 100 cc. H2O, and the product isolated with Et2O gave 44% bis(2,4-diphenyl-5-furyl) disulfide, m. 148-50.degree. (EtOH-H2O).

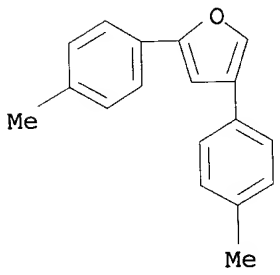
ACCESSION NUMBER: 1965:58794 CAPLUS
DOCUMENT NUMBER: 62:58794
ORIGINAL REFERENCE NO.: 62:10395d-h,10396a-b
TITLE: The reactions of diazocarbonyl compounds. XV. The reactions with substituted furandiazonium fluoroborates
AUTHOR(S): Ried, Walter; Bodenstedt, Wolfgang
CORPORATE SOURCE: Univ. Frankfurt/Main, Germany
SOURCE: Ann. Chem. (**1964**), 679, 77-83
DOCUMENT TYPE: Journal
LANGUAGE: German

IT **1262-68-6**, Furan, 2',3,4',5-tetra-p-tolyl-2,3'-azodi-
1446-76-0, Furan, 2,4-di-p-tolyl- **1687-87-2**, Carbonic acid, dithio-, S,S-bis(3,5-di-p-tolyl-2-furyl) ester
(prepn. of)

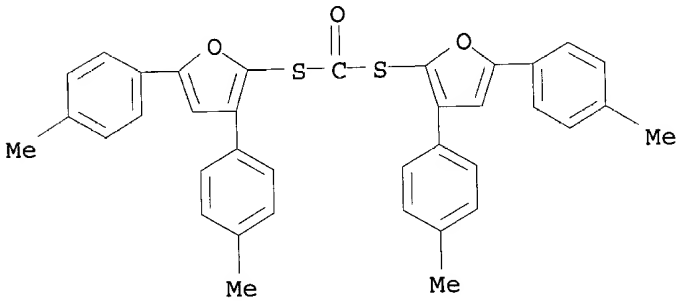
RN 1262-68-6 CAPLUS
CN Furan, 2',3,4',5-tetra-p-tolyl-2,3'-azodi- (7CI, 8CI) (CA INDEX NAME)



RN 1446-76-0 CAPLUS
CN Furan, 2,4-di-p-tolyl- (7CI, 8CI) (CA INDEX NAME)



RN 1687-87-2 CAPLUS
CN Carbonic acid, dithio-, S,S-bis(3,5-di-p-tolyl-2-furyl) ester (7CI, 8CI) (CA INDEX NAME)



L10 ANSWER 14 OF 14 USPATFULL
AB Compounds according to the formula: ##STR1## wherein: R.sub.1 and R.sub.2 are each independently selected from the group consisting of H, loweralkyl, aryl, alkylaryl, aminoalkyl, aminoaryl, halogen, oxyalkyl,

oxyaryl, or oxyarylalkyl; R.sub.3 and R.sub.4 are each independently selected from the group consisting of H, loweralkyl, oxyalkyl, alkylaryl, aryl, oxyaryl, aminoalkyl, aminoaryl, or halogen; and X and Y are located in the para or meta positions and are each selected from the group consisting of H, loweralkyl, oxyalkyl, and ##STR2## wherein: each R.sub.5 is independently selected from the group consisting of H, loweralkyl, alkoxyalkyl, hydroxyalkyl, aminoalkyl, alkylaminoalkyl, cycloalkyl, aryl, or alkylaryl or two R.sub.5 groups together represent C.sub.2 to C.sub.10 alkyl, hydroxyalkyl, or alkylene; and R.sub.6 is H, hydroxy, loweralkyl, alkoxyalkyl, hydroxyalkyl, aminoalkyl, alkylamino, lkylarninoalkyl, cycloalkyl, hydroxycycloalkyl, alkoxycycloalkyl, aryl, or alkylaryl; or a pharmaceutically acceptable salt thereof, are disclosed. The compounds are useful for treating Pneumocystis carinii in a subject in need of such treatment.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 1999:170639 USPATFULL

TITLE: 2,4-bis[(4-amidino)phenyl]furans as anti-Pneumocystis carinii agents

INVENTOR(S): Boykin, David W., Atlanta, GA, United States
Tidwell, Richard R., Pittsboro, NC, United States
Wilson, W. David, Atlanta, GA, United States
Francesconi, Iris, Atlanta, GA, United States

PATENT ASSIGNEE(S): The University of North Carolina at Chapel Hill, Chapel Hill, NC, United States (U.S. corporation)
Georgia State University, Atlanta, GA, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6008247		19991228	<--
APPLICATION INFO.:	US 1998-32586		19980227	(9)

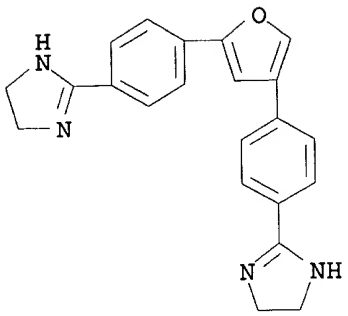
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Richter, Johann
ASSISTANT EXAMINER: Solola, Taofiq A.
LEGAL REPRESENTATIVE: Myers Bigel Sibley & Sajovec
NUMBER OF CLAIMS: 24
EXEMPLARY CLAIM: 1
LINE COUNT: 911

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT **229308-77-4P 229308-78-5P 229308-83-2P**
242807-42-7P 242807-43-8P 242807-44-9P
242807-45-0P 242807-46-1P 242807-47-2P
242807-48-3P 242807-49-4P 242807-50-7P
242807-51-8P 242807-52-9P 242807-53-0P
242807-54-1P 242807-55-2P 242807-56-3P
242807-57-4P 242807-58-5P 242807-59-6P
(prepn. of 2,4-bis(4-amidinophenyl)furans as anti-pneumocystis carinii agents)

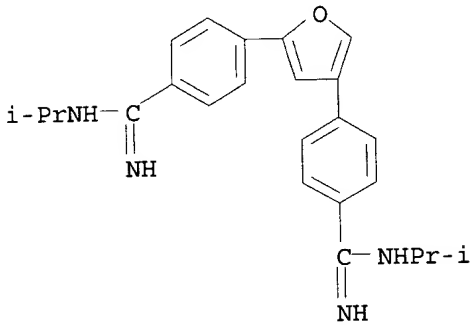
RN 229308-77-4 USPATFULL

CN 1H-Imidazole, 2,2'-(2,4-furandiyldi-4,1-phenylene)bis[4,5-dihydro-, dihydrochloride (9CI) (CA INDEX NAME)



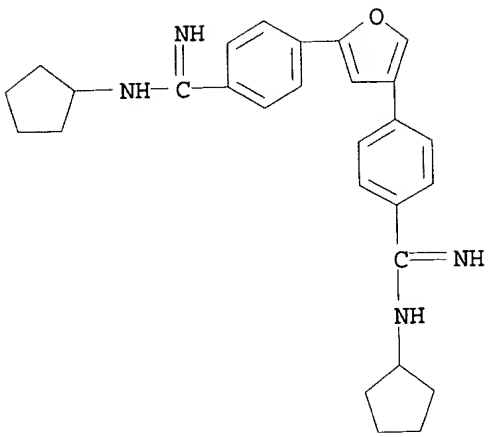
●2 HCl

RN 229308-78-5 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-(1-methylethyl)-, dihydrochloride (9CI) (CA INDEX NAME)



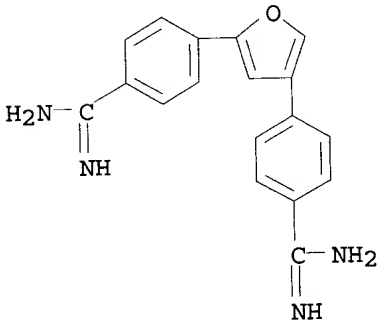
●2 HCl

RN 229308-83-2 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-cyclopentyl-, dihydrochloride (9CI) (CA INDEX NAME)

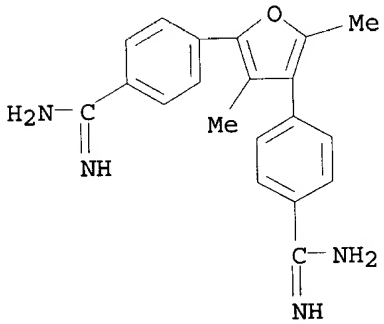


●2 HCl

RN 242807-42-7 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis- (9CI) (CA INDEX NAME)

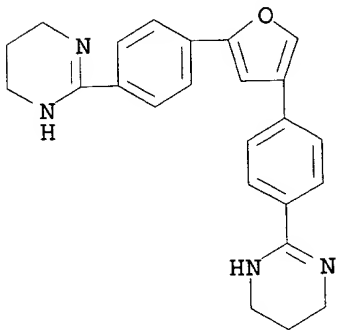


RN 242807-43-8 USPATFULL
CN Benzenecarboximidamide, 4,4'-(3,5-dimethyl-2,4-furandiyl)bis- (9CI) (CA INDEX NAME)

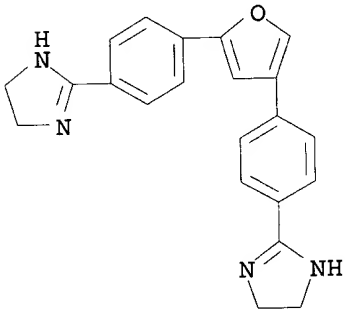


RN 242807-44-9 USPATFULL

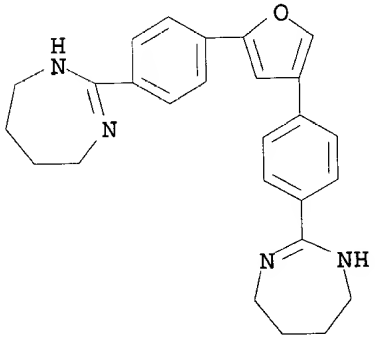
CN Pyrimidine, 2,2'-(2,4-furandiyldi-4,1-phenylene)bis[1,4,5,6-tetrahydro- (9CI) (CA INDEX NAME)



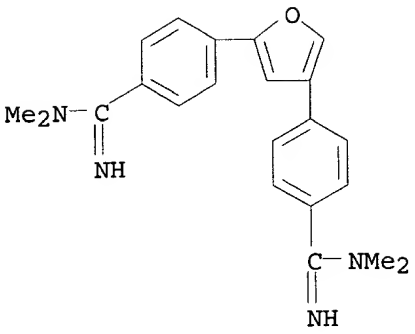
RN 242807-45-0 USPATFULL
CN 1H-Imidazole, 2,2'-(2,4-furandiyldi-4,1-phenylene)bis[4,5-dihydro- (9CI) (CA INDEX NAME)



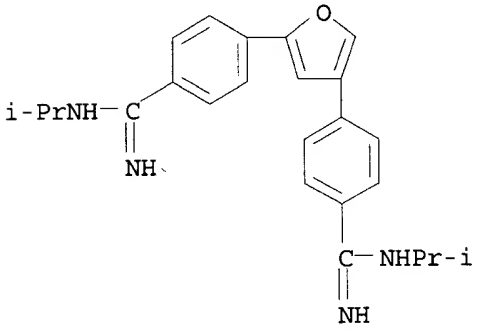
RN 242807-46-1 USPATFULL
CN 1H-1,3-Diazepine, 2,2'-(2,4-furandiyldi-4,1-phenylene)bis[4,5,6,7-tetrahydro- (9CI) (CA INDEX NAME)



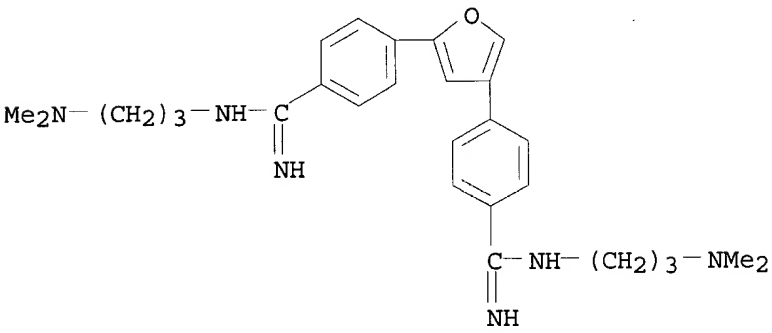
RN 242807-47-2 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N,N-dimethyl- (9CI) (CA INDEX NAME)



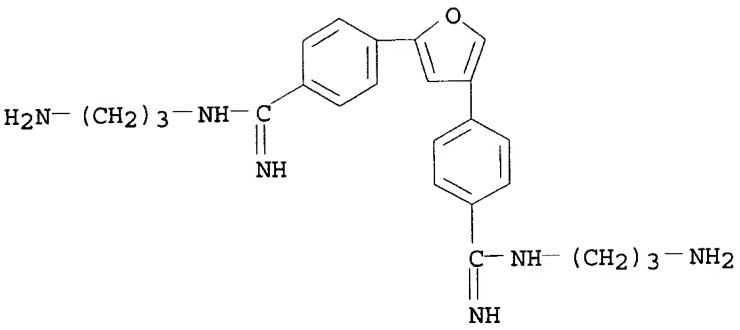
RN 242807-48-3 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-(1-methylethyl)- (9CI) (CA INDEX NAME)



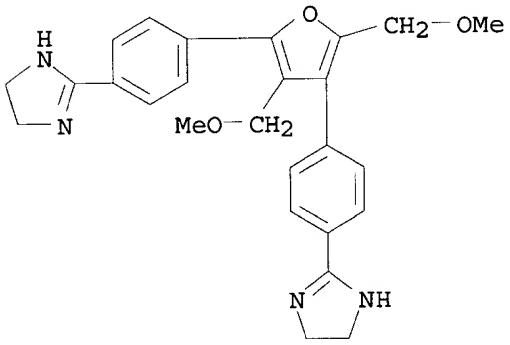
RN 242807-49-4 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-[3-(dimethylamino)propyl]- (9CI) (CA INDEX NAME)



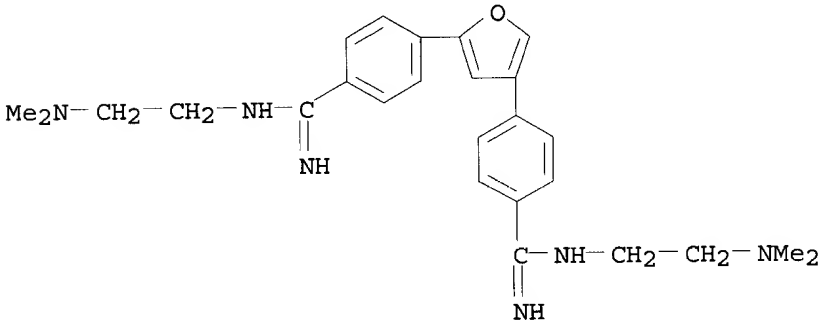
RN 242807-50-7 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-(3-aminopropyl)- (9CI) (CA INDEX NAME)



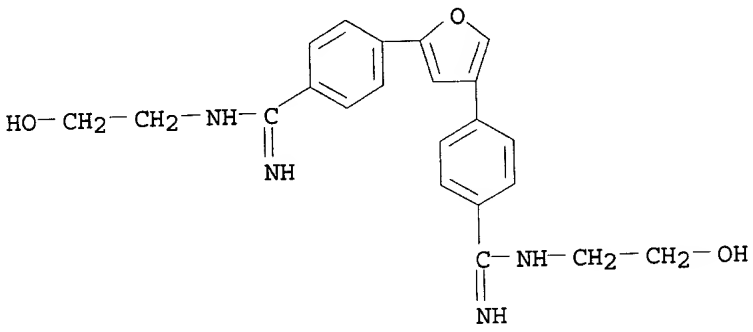
RN 242807-51-8 USPATFULL
CN 1H-Imidazole, 2,2'-[[3,5-bis(methoxymethyl)-2,4-furandiyl]di-4,1-phenylene]bis[4,5-dihydro- (9CI) (CA INDEX NAME)



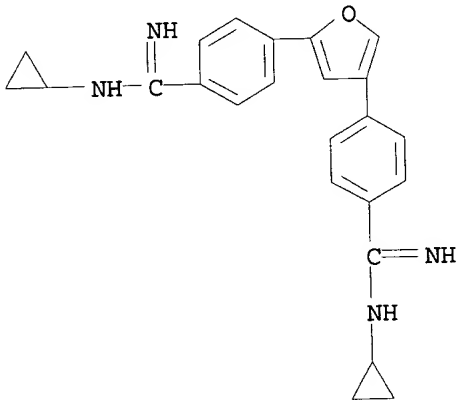
RN 242807-52-9 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-[2-(dimethylamino)ethyl]- (9CI) (CA INDEX NAME)



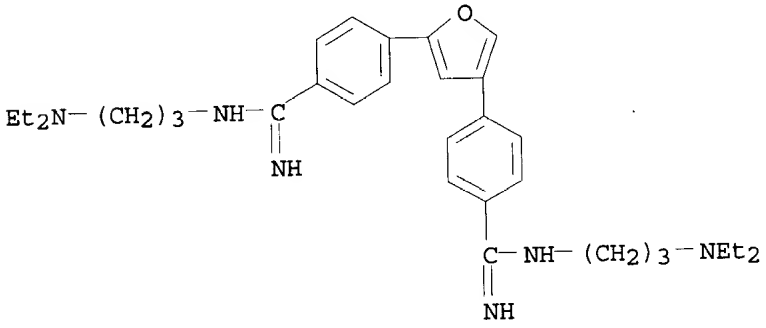
RN 242807-53-0 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-(2-hydroxyethyl)- (9CI) (CA INDEX NAME)



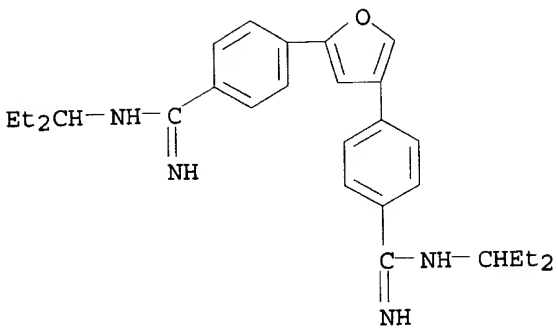
RN 242807-54-1 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-cyclopropyl- (9CI) (CA INDEX NAME)



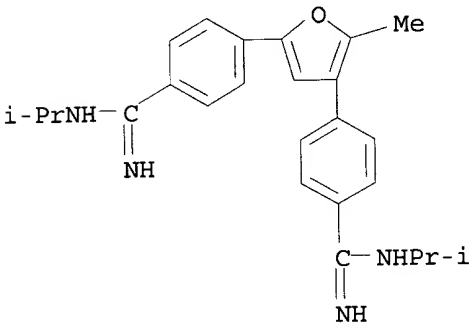
RN 242807-55-2 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-[3-(diethylamino)propyl]- (9CI) (CA INDEX NAME)



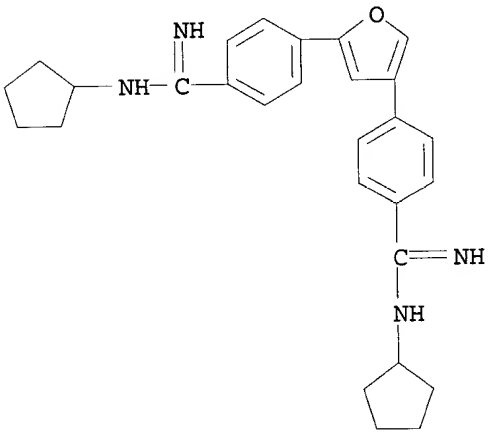
RN 242807-56-3 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-(1-ethylpropyl)- (9CI) (CA INDEX NAME)



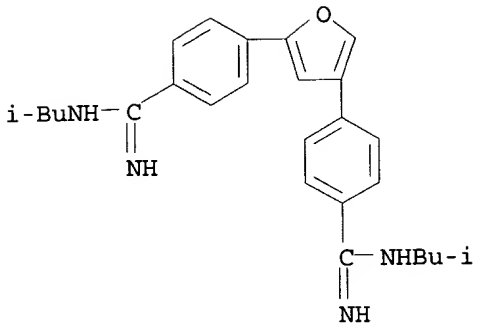
RN 242807-57-4 USPATFULL
CN Benzenecarboximidamide, 4,4'-(5-methyl-2,4-furandiyl)bis[N-(1-methylethyl)- (9CI) (CA INDEX NAME)



RN 242807-58-5 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-cyclopentyl- (9CI) (CA INDEX NAME)

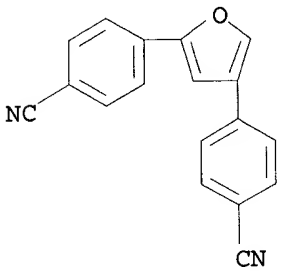


RN 242807-59-6 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-(2-methylpropyl)- (9CI) (CA INDEX NAME)

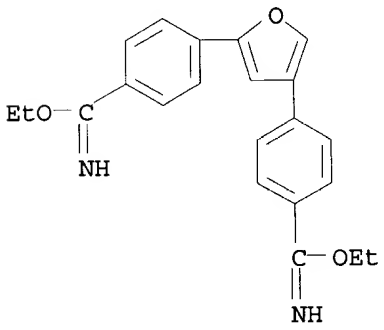


IT **229308-74-1P 229308-75-2P 229308-76-3P**
229308-81-0P 242807-61-0P
(prepn. of 2,4-bis(4-amidinophenyl)furans as anti-pneumocystis carinii agents)

RN 229308-74-1 USPATFULL
CN Benzonitrile, 4,4'-(2,4-furandiyl)bis- (9CI) (CA INDEX NAME)



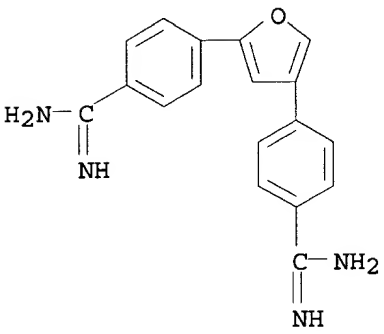
RN 229308-75-2 USPATFULL
CN Benzenecarboximidic acid, 4,4'-(2,4-furandiyl)bis-, diethyl ester, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

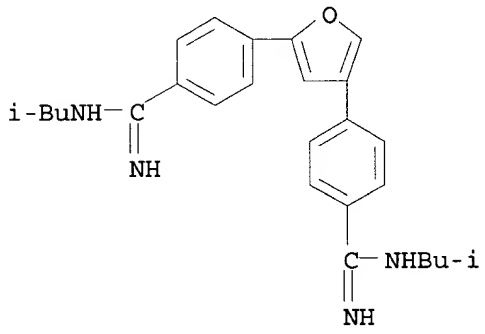
RN 229308-76-3 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis-, dihydrochloride (9CI)

(CA INDEX NAME)



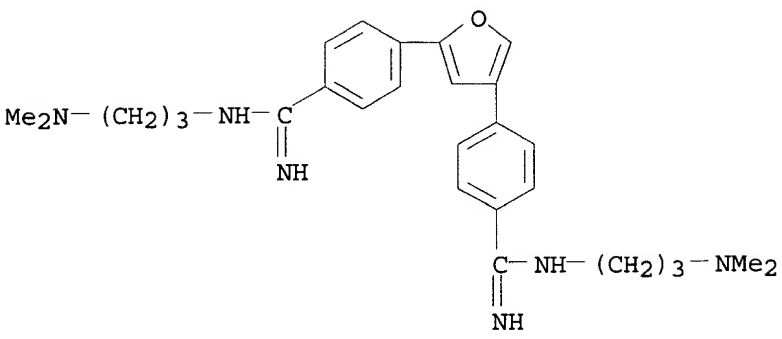
●2 HCl

RN 229308-81-0 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-(2-methylpropyl)-, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

RN 242807-61-0 USPATFULL
CN Benzenecarboximidamide, 4,4'-(2,4-furandiyl)bis[N-[3-(dimethylamino)propyl]-, tetrahydrochloride (9CI) (CA INDEX NAME)



● 4 HCl